From Planning to Purchase:

Your Electric Vehicles Checklist

1 Identify Your Vehicle Needs

Your fleet's vehicle selection can vary depending on the available charging time you'll have, range needs, and payload needs as well as cost considerations. The following checklist is a good place to start in deciding what vehicles to select for your fleet by identifying:

- [ ] Average route length, as well as shortest and longest route lengths.
- [ ] Frequency and duration of route stops.
- [ ] Heating and cooling needs that may reduce vehicle range.
- [ ] Grade changes that may reduce vehicle range.
- [ ] Route-specific needs such as cargo volume, cargo mass, or passenger volume.
- [ ] Available charging times (domicile time).

Going through the above checklist for each vehicle use case will help your fleet identify the battery size required to meet your fleet's needs. Even within the same class of vehicles, such as electric pickup trucks, there can be significant variation in available battery sizes and vehicle range. It's important to consider the financial incentives available depending on the weight class of the vehicle you're purchasing. In Massachusetts, MOR-EV rebates are available on Class 1 through Class 8 vehicles.

1a Identify Eligible Rebates and Incentives for Your Fleet

MOR-EV

MOR-EV Trucks (**https://mor-ev.org/**) is a post-purchase rebate program set up by Massachusetts Department of Energy Resources (DOER). MOR-EV Trucks is grouped by Pickups and Class 2b vehicles (**https://mor-ev.org/trucks-pickups**) and Class 3-8 Trucks (**https://mor-ev.org trucks-3-8**). Both categories are available to private businesses, non-profit organizations, educational institutions, and municipal governments.

MOR-EV
Massachusetts Offers Rebates for Electric Vehicles

Although MOR-EV is a post-purchase incentive, applicants may submit rebate reservation vouchers prior to purchase. These vouchers must be redeemed within 90 days of vehicle delivery.

Mass EVIP

MassEVIP Workplace & Fleet Charging is one of several MassDEP rolling grant programs aimed at making electric vehicles (EVs) and EV charging stations more widely available across Massachusetts.

MassDEP

2 Engage with Your Utility

The following checklist can guide your utility engagement process, though only the bolded bullets are necessary for utility engagement:

- **Identify desired type of charger (generally Level 2 or DC Fast).**
- **Identify number of ports needed (usually one per vehicle).**
- **Identify necessary power level per port – you can consult your Mass Fleet Advisors on this!**
- **Identify charging location.**
- Identify an electrical contractor.
    - Though it is not necessary for funding, the **National Grid Charging Station Installer list** or the Massachusetts **Contractor Index** is a good place to start if you don't already have an electrician in mind.
- Engage utility or electrician for analysis of electrical capacity.
- Get a quote for electric distribution company and customer equipment.
- Identify desired charging equipment.
- Approach utility with additional equipment and service needed. Even if you don't need additional service, you will likely need new equipment such as transformers or conductors.

If You Don't Own Your Parking

For fleets that lease their parking locations, it may not be feasible to install charging. In this situation, you may want to evaluate either **mobile charging solutions** or relying on **on-route charging**. The On-Route Charging Options section provides information on locating public facing chargers. Fleets can also utilize the **National Zero-Emission Medium- And Heavy-Duty Infrastructure Map** to find publicly available chargers for zero-emission trucks class 2b – 8.

Mobile charging refers to any type of semi-permanent, off-grid, and grid-flexible charging solutions that help fleet owners electrify without the need for immediate large-scale investments in infrastructure.[1] Capital investment in fixed EVSE infrastructure (transformers, conduit, switchgear, trenching) may be unrecoverable if a lease ends or a depot moves.

Mobile and semi-permanent solutions protect capital by keeping charging assets on the fleet's balance sheet as movable equipment rather than tenant improvements.

Fleets can refer to the **Medium- and Heavy-Duty Charging Solutions Pilot Technology Inventory** with a non-exhaustive list of OEMs available in the market.

If You Own Your Parking

Fleets often report that utility work, and therefore charger installation, have the longest time frame when it comes to electrification. Once your fleet decides what vehicles to procure, you should reach out to your utility. Based on battery size and vehicle duty cycle, you should have an idea of your charger needs. If not, your Mass Fleet Advisors can work with you to determine how many and what kind of chargers are the best fit for your new vehicle(s).

The most common forms of charging for commercial applications are Level 2/AC and Level 3/DC Fast Charging. Given its higher power output, DC Fast charging is best suited for heavy-duty vehicles or vehicles with applications such as emergency service which have limited or unpredictable domicile time. Given the lower electric needs and therefore generally lower cost, fleets generally prefer to use Level 2 Charging where possible.

Each utility has a specific process to begin the process of charger installation for commercial clients. As a Massachusetts business, your utility may be Eversource, National Grid, Unitil, or a Municipal Light Provider. On your utility website, there is a business/commercial customer phone number that you can contact.

Some utility funding is available in Massachusetts for charger preparation.

[1] **Medium- and Heavy-Duty Mobile Charging Solutions | MassCEC**

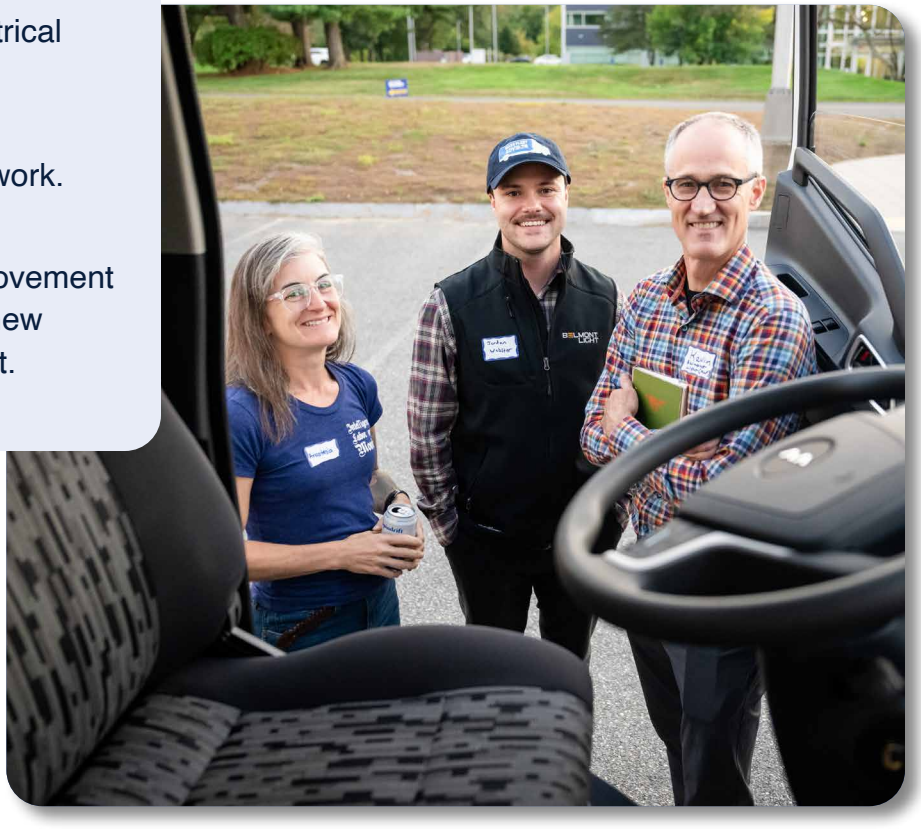
3 Perform Necessary Electrical Work

Given that utility-side upgrades can have a lead time of several months, utility engagement and charger installation will likely be happening before and concurrent with your vehicle procurement. Your first step will be finalizing any permits needed for electric system upgrades or charger.

For example, if you intend to purchase four vehicles and your current electrical service can only support two charger ports, you will want to begin with procurement and charger installation for only two of the desired vehicles.

You will want to engage a trusted electrical contractor as a partner in your procurement and installation process. They can provide you with more detailed estimates on the timeline for your EVSE installation and the cost of utility-side work, customer-side work, and the cost of chargers. Once permitting is handled with the utility, you can begin the work necessary to complete before charger installation.

- Work with utility and electrical contractor on permitting.
- Get quotes on electrical work.
- Begin infrastructure improvement such as installation of a new service or new equipment.



4 Find Your Dealer

Now that you know what vehicle make and model you're buying and have gotten started on the process of having chargers installed for it, the next step is to identify the specific vehicle. This is likely to be done through your dealership – if you plan to pursue the MOR-EV rebate for a light-duty vehicle, please ensure you are working with a **participating dealership**. For light-duty, pickups and Class 2b, and Class 3-8, please ensure you are procuring a vehicle from the eligibility list:

- **Pickups**
- **Class 2b**
- **Class 3-8**

- [ ] Select dealership.
- [ ] Work with dealership to finalize vehicle specifications.
- [ ] Place vehicle order.
- [ ] Obtain purchase or lease agreement (for Class 2b and light-duty).
- [ ] Obtain proof of intent to purchase, such as PO, reservation agreement with deposit, signed bulk purchase agreement, or letter of intent (for Class 3-8).

You can work with your dealer to determine any add-ons you may want for your vehicle. At this stage, you can also get the necessary materials for a MOR-EV voucher, if you choose to pursue that option.

5 Hang On to Your Receipts!

Many incentive programs are rebates offered after upfront payment. It's important to keep track of how much you've spent on vehicles and equipment to pursue as many refunds as possible. Although this list provides recommendations in a numbered order, you can expect vehicle procurement and charger installation to be an overlapping process. Depending on the incentive program, you may have a **limited number of days to submit for reimbursement** after purchase.

Need Help with Your EV Purchase?

Get expert guidance at **massfleetadvisor@calstart.org**